

SEQUENCE LISTING



<110> COUGHLIN, Shaun R.
ISHIHARA, Hiroaki
CONNOLLY, Andrew

<120> PROTEASE-ACTIVATED RECEPTOR 3 AND USES
THEREOF

<130> 220002060310

<140> US 09/208,629

<141> 1998-12-08

<150> US 08/742,440

<151> 1996-10-30

<160> 31

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1224

<212> DNA

<213> Mus Musculus

<400> 1

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aaaatacctt	tgaagaattc	ccactttctg	acatagaggg	ctggacagga	gccaccacaa	240
ctataaaaagc	ggagtgtccc	gaggacagta	tttcaactct	ccacgtgaat	aatgctacca	300
taggataacct	gagaagttec	ttaagtaccc	aagtgatacc	tgccatctat	atcctgctgt	360
ttgtggttgg	tgtaccatcc	aacatcgtga	ccctgtggaa	actctcctta	aggaccaa	420
ccatcagctc	ggtcactctt	cacaccaacc	tgccatcgc	agatctcctt	ttctgtgtca	480
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cttgcatggg	catcaaccgc	tacctggcca	cggctcacc	tttcacatac	cagaagctgc	660
ccaaacgcag	cttctccttg	ctcatgtgtg	gcatagtgtg	ggtcatggtt	ttcttataca	720
tgctgccctt	tgtcatcctg	aagcaggagt	accacctcgt	ccactcagag	atcaccacct	780
gccacgatgt	cgctcgacgc	tgcgagtccc	catcatcctt	ccgattctac	tacttcgtct	840
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tcatccacaa	acttaaatca	aaggatcgga	tatggctggg	ctacatcaag	gccgtcctcc	960
tcatccttgt	gattttcaca	atttgctttg	ccccaccaa	catcatactc	gtaatccacc	1020
atgccaaacta	ctactaccac	aataccgaca	gcttgacttt	tatgtatctt	attgctctgt	1080
gcctggggag	cctgaatagc	tgccatagac	cattccttta	ctttgtcatg	tcgaaagtgt	1140
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<210> 2

<211> 1124

<212> DNA

<213> Mus Musculus

<220>

<221> misc_feature

<222> 117, 118, 119, 120, 121, 122, 123, 350, 351, 442,
443, 444, 595, 596, 597, 663, 785, 859, 860, 861, 862, 863,
864

<223> n = A, T, C, or G

<400> 2

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cctggccatc gcgcatctcc ttttctgtgt cagctgccc tttaagatcn ncctaccatc 360
tcaatggcaa caactgggta tttggcgagg tcatgtgcc gatcaccacg gtcgttttct 420
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gantcccat catccttcct attctactac ttctgtcct tagcattctt tgggttcctc 720
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gatcngatat ggctgggcta catcaaggcc gtccctctca tccttgtgaa tttcaccatc 840
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<210> 3

<211> 369

<212> PRT

<213> Mus Musculus

<400> 3

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      20           25           30
Thr Leu Thr Ile Lys Ser Phe Asn Gly Gly Pro Gln Asn Thr Phe Glu
      35           40           45
Glu Phe Pro Leu Ser Asp Ile Glu Gly Trp Thr Gly Ala Thr Thr Thr
      50           55           60
Ile Lys Ala Glu Cys Pro Glu Asp Ser Ile Ser Thr Leu His Val Asn
      65           70           75           80
Asn Ala Thr Ile Gly Tyr Leu Arg Ser Ser Leu Ser Thr Gln Val Ile
      85           90           95
Pro Ala Ile Tyr Ile Leu Leu Phe Val Val Gly Val Pro Ser Asn Ile
      100          105          110
Val Thr Leu Trp Lys Leu Ser Leu Arg Thr Lys Ser Ile Ser Leu Val
      115          120          125
Ile Phe His Thr Asn Leu Ala Ile Ala Asp Leu Leu Phe Cys Val Thr
      130          135          140
Leu Pro Phe Lys Ile Ala Tyr His Leu Asn Gly Asn Asn Trp Val Phe
      145          150          155          160
Gly Glu Val Met Cys Arg Ile Thr Thr Val Val Phe Tyr Gly Asn Met
      165          170          175
Tyr Cys Ala Ile Leu Ile Leu Thr Cys Met Gly Ile Asn Arg Tyr Leu
      180          185          190
Ala Thr Ala His Pro Phe Thr Tyr Gln Lys Leu Pro Lys Arg Ser Phe
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<400> 5

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ggagccacga ttactgtaaa aattaagtgc cctgaagaaa gtgcttcaca tctccatgtg 180
aaaaatgcta ccatggggta cctgaccagc tccttaagta ctaaactgat acctgccatc 240
tacctcctgg tgttttagt tggtgtcccg gccaatgctg tgaccctgtg gatgcttttc 300
ttcaggacca gatccatctg taccactgta ttctacacca acctggccat tgcagatttt 360
cttttttggt ttacattgcc cttaagata gcttatcatc tcaatgggaa caactgggta 420
tttggagagg tcctgtgccg ggccaccaca gtcattctct atggcaacat gtactgctcc 480
attctgctcc ttgctgcat cagcatcaac cgctacctgg ccatcgcca tcctttcacc 540
taccggggcc tgcccaagca cacctatgcc ttggtaacat gtggactggg gtggggcaaca 600
gttttcttat atatgctgcc atttttcata ctgaagcagg aatattatct tgttcagcca 660
gacatcacca cctgccatga tgttcacaac acttgcgagt cctcatctcc cttccaactc 720
tattacttca tctccttggc attctttgga ttcttaattc catttggtgt tatcatctac 780
tgctatgcag ccatcatccg gacacttaat gcatacgatc atagatggtt gtggtatggt 840
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cttattattc accatgctaa ctactactac aacaacactg atggcttata ttttatatat 960
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<210> 6

<211> 374

<212> PRT

<213> Homo Sapiens

<400> 6

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Met Lys Ala Leu Ile Phe Ala Ala Ala Gly Leu Leu Leu Leu Leu Pro
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Thr Phe Cys Gln Ser Gly Met Glu Asn Asp Thr Asn Asn Leu Ala Lys
20          25          30
Pro Thr Leu Pro Ile Lys Thr Phe Arg Gly Ala Pro Pro Asn Ser Phe

35          40          45
Glu Glu Phe Pro Phe Ser Ala Leu Glu Gly Trp Thr Gly Ala Thr Ile
50          55          60
Thr Val Lys Ile Lys Cys Pro Glu Glu Ser Ala Ser His Leu His Val
65          70          75          80
Lys Asn Ala Thr Met Gly Tyr Leu Thr Ser Ser Leu Ser Thr Lys Leu
85          90          95
Ile Pro Ala Ile Tyr Leu Leu Val Phe Val Val Gly Val Pro Ala Asn
100          105          110
Ala Val Thr Leu Trp Met Leu Phe Arg Thr Arg Ser Ile Cys Thr
115          120          125
Thr Val Phe Tyr Thr Asn Leu Ala Ile Ala Asp Phe Leu Phe Cys Val
130          135          140
Thr Leu Pro Phe Lys Ile Ala Tyr His Leu Asn Gly Asn Asn Trp Val
145          150          155          160
Phe Gly Glu Val Leu Cys Arg Ala Thr Thr Val Ile Phe Tyr Gly Asn
165          170          175
Met Tyr Cys Ser Ile Leu Leu Leu Ala Cys Ile Ser Ile Asn Arg Tyr
180          185          190
Leu Ala Ile Val His Pro Phe Thr Tyr Arg Gly Leu Pro Lys His Thr
195          200          205
Tyr Ala Leu Val Thr Cys Gly Leu Val Trp Ala Thr Val Phe Leu Tyr
210          215          220

```

Met	Leu	Pro	Phe	Phe	Ile	Leu	Lys	Gln	Glu	Tyr	Tyr	Leu	Val	Gln	Pro
225					230					235					240
Asp	Ile	Thr	Thr	Cys	His	Asp	Val	His	Asn	Thr	Cys	Glu	Ser	Ser	Ser
				245					250					255	
Pro	Phe	Gln	Leu	Tyr	Tyr	Phe	Ile	Ser	Leu	Ala	Phe	Phe	Gly	Phe	Leu
			260					265					270		
Ile	Pro	Phe	Val	Leu	Ile	Ile	Tyr	Cys	Tyr	Ala	Ala	Ile	Ile	Arg	Thr
		275					280					285			
Leu	Asn	Ala	Tyr	Asp	His	Arg	Trp	Leu	Trp	Tyr	Val	Lys	Ala	Ser	Leu
	290					295					300				
Leu	Ile	Leu	Val	Ile	Phe	Thr	Ile	Cys	Phe	Ala	Pro	Ser	Asn	Ile	Ile
305					310					315					320
Leu	Ile	Ile	His	His	Ala	Asn	Tyr	Tyr	Tyr	Asn	Asn	Thr	Asp	Gly	Leu
			325						330					335	
Tyr	Phe	Ile	Tyr	Leu	Ile	Ala	Leu	Cys	Leu	Gly	Ser	Leu	Asn	Ser	Cys
			340					345					350		
Leu	Asp	Pro	Phe	Leu	Tyr	Phe	Leu	Met	Ser	Lys	Thr	Arg	Asn	His	Ser
		355					360					365			
Thr	Ala	Tyr	Leu	Thr	Lys										
			370												

<210> 7

<211> 425

<212> PRT

<213> Homo Sapiens

<400> 7

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			20					25					30		
Ala	Thr	Asn	Ala	Thr	Leu	Asp	Pro	Arg	Ser	Phe	Leu	Leu	Arg	Asn	Pro
		35				40					45				
Asn	Asp	Lys	Tyr	Glu	Pro	Phe	Trp	Glu	Asp	Glu	Glu	Lys	Asn	Glu	Ser
	50					55				60					
Gly	Leu	Thr	Glu	Tyr	Arg	Leu	Val	Ser	Ile	Asn	Lys	Ser	Ser	Pro	Leu
65				70					75					80	
Gln	Lys	Gln	Leu	Pro	Ala	Phe	Ile	Ser	Glu	Asp	Ala	Ser	Gly	Tyr	Leu
			85					90					95		
Thr	Ser	Ser	Trp	Leu	Thr	Leu	Phe	Val	Pro	Ser	Val	Tyr	Thr	Gly	Val
		100					105					110			
Phe	Val	Val	Ser	Leu	Pro	Leu	Asn	Ile	Met	Ala	Ile	Val	Val	Phe	Ile
		115					120					125			
Leu	Lys	Met	Lys	Val	Lys	Lys	Pro	Ala	Val	Val	Tyr	Met	Leu	His	Leu
	130					135					140				
Ala	Thr	Ala	Asp	Val	Leu	Phe	Val	Ser	Val	Leu	Pro	Phe	Lys	Ile	Ser
145					150					155					160
Tyr	Tyr	Phe	Ser	Gly	Ser	Asp	Trp	Gln	Phe	Gly	Ser	Glu	Leu	Cys	Arg
			165					170						175	
Phe	Val	Thr	Ala	Ala	Phe	Tyr	Cys	Asn	Met	Tyr	Ala	Ser	Ile	Leu	Leu
		180						185					190		
Met	Thr	Val	Ile	Ser	Ile	Asp	Arg	Phe	Leu	Ala	Val	Val	Tyr	Pro	Met
		195					200					205			
Gln	Ser	Leu	Ser	Trp	Arg	Thr	Leu	Gly	Arg	Ala	Ser	Phe	Thr	Cys	Leu
	210					215					220				
Ala	Ile	Trp	Ala	Leu	Ala	Ile	Ala	Gly	Val	Val	Pro	Leu	Val	Leu	Lys

225					230					235				240
Glu	Gln	Thr	Ile	Gln	Val	Pro	Gly	Leu	Asn	Ile	Thr	Thr	Cys	His
				245					250					255
Val	Leu	Asn	Glu	Thr	Leu	Leu	Glu	Gly	Tyr	Tyr	Ala	Tyr	Tyr	Phe
			260					265					270	
Ala	Phe	Ser	Ala	Val	Phe	Phe	Phe	Val	Pro	Leu	Ile	Ile	Ser	Thr
		275					280					285		Val
Cys	Tyr	Val	Ser	Ile	Ile	Arg	Cys	Leu	Ser	Ser	Ser	Ala	Val	Ala
	290					295					300			Asn
Arg	Ser	Lys	Lys	Ser	Arg	Ala	Leu	Phe	Leu	Ser	Ala	Ala	Val	Phe
305					310					315				Cys
Ile	Phe	Ile	Ile	Cys	Phe	Gly	Pro	Thr	Asn	Val	Leu	Leu	Ile	Ala
				325					330					His
Tyr	Ser	Phe	Leu	Ser	His	Thr	Ser	Thr	Thr	Glu	Ala	Ala	Tyr	Phe
			340					345					350	Ala
Tyr	Leu	Leu	Cys	Val	Cys	Val	Ser	Ser	Ile	Ser	Ser	Cys	Ile	Asp
		355					360					365		Pro
Leu	Ile	Tyr	Tyr	Tyr	Ala	Ser	Ser	Glu	Cys	Gln	Arg	Tyr	Val	Tyr
	370				375						380			Ser
Ile	Leu	Cys	Cys	Lys	Glu	Ser	Ser	Asp	Pro	Ser	Ser	Tyr	Asn	Ser
385					390					395				400
Gly	Gln	Leu	Met	Ala	Ser	Lys	Met	Asp	Thr	Cys	Ser	Ser	Asn	Leu
			405					410					415	Asn
Asn	Ser	Ile	Tyr	Lys	Lys	Leu	Leu	Thr						
		420						425						

<210> 8

<211> 394

<212> PRT

<213> Homo Sapiens

<400> 8

Met	Arg	Ser	Pro	Ser	Ala	Ala	Trp	Leu	Leu	Gly	Ala	Ala	Ile	Leu	Leu
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			20					25					30		
Ser	Lys	Gly	Arg	Ser	Leu	Ile	Gly	Lys	Val	Asp	Gly	Thr	Ser	His	Val
		35					40					45			
Thr	Gly	Lys	Gly	Val	Thr	Val	Glu	Thr	Val	Phe	Ser	Val	Asp	Glu	Phe
	50					55				60					
Ser	Ala	Ser	Val	Leu	Thr	Gly	Lys	Leu	Thr	Thr	Val	Phe	Leu	Pro	Ile
65					70				75					80	
Val	Tyr	Thr	Ile	Val	Phe	Val	Val	Gly	Leu	Pro	Ser	Asn	Gly	Met	Ala
			85					90					95		
Leu	Trp	Val	Phe	Leu	Phe	Arg	Thr	Lys	Lys	Lys	His	Pro	Ala	Val	Ile
			100					105					110		
Tyr	Met	Ala	Asn	Leu	Ala	Leu	Ala	Asp	Leu	Leu	Ser	Val	Ile	Trp	Phe
		115					120					125			
Pro	Leu	Lys	Ile	Ala	Tyr	His	Ile	His	Gly	Asn	Asn	Trp	Ile	Tyr	Gly
	130					135					140				
Glu	Ala	Leu	Cys	Asn	Val	Leu	Ile	Gly	Phe	Phe	Tyr	Gly	Asn	Met	Tyr
145				150					155					160	
Cys	Ser	Ile	Leu	Phe	Met	Thr	Cys	Leu	Ser	Val	Gln	Arg	Tyr	Trp	Val
				165					170					175	
Ile	Val	Asn	Pro	Met	Gly	His	Ser	Arg	Lys	Lys	Ala	Asn	Ile	Ala	Ile
			180					185					190		

Gly	Ile	Ser	Leu	Ala	Ile	Trp	Leu	Leu	Ile	Leu	Leu	Val	Thr	Ile	Pro
		195					200					205			
Leu	Tyr	Val	Val	Lys	Gln	Thr	Ile	Phe	Ile	Pro	Ala	Leu	Asn	Ile	Thr
		210				215					220				
Thr	Cys	His	Asp	Val	Leu	Pro	Glu	Gln	Leu	Leu	Val	Gly	Asp	Pro	Phe
225					230					235					240
Leu	Ser	Leu	Ala	Ile	Gly	Val	Phe	Leu	Phe	Pro	Ala	Phe	Leu	Thr	Ala
				245					250						255
Ser	Ala	Tyr	Val	Leu	Met	Ile	Arg	Met	Leu	Arg	Ser	Ser	Ala	Met	Asp
			260					265					270		
Glu	Asn	Ser	Glu	Lys	Lys	Arg	Lys	Arg	Ala	Ile	Lys	Leu	Ile	Val	Thr
		275					280					285			
Val	Leu	Ala	Met	Tyr	Leu	Ile	Cys	Phe	Thr	Pro	Ser	Asn	Leu	Leu	Leu
		290				295						300			
Val	Val	His	Tyr	Phe	Leu	Ile	Lys	Ser	Gln	Gly	Gln	Ser	His	Val	Tyr
305					310					315					320
Ala	Leu	Tyr	Ile	Val	Ala	Leu	Cys	Leu	Ser	Thr	Leu	Asn	Ser	Cys	Ile
				325						330				335	
Asp	Pro	Phe	Val	Tyr	Tyr	Phe	Val	Ser	His	Asp	Phe	Arg	Asp	His	Ala
			340					345					350		
Lys	Asn	Ala	Leu	Leu	Cys	Arg	Ser	Val	Arg	Thr	Val	Lys	Gln	Met	Gln
		355					360					365			
Val	Ser	Leu	Thr	Ser	Lys	Lys	His	Ser	Arg	Lys	Ser	Ser	Ser	Tyr	Ser
		370				375					380				
Ser	Ser	Ser	Thr	Thr	Val	Lys	Thr	Ser	Tyr						
385					390										

<210> 9
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 <212> PRT
 <213> Homo Sapiens

<400> 9
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 1 5 10

<210> 10
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetic Construct

<220>
 <221> misc_feature
 <222> 3, 12, 18, 21, 24
 <223> n = Inosine

<220>
 <221> misc_feature
 <222> 22, 27
 <223> n = A, C, G, or T

<400> 10

gtntacatgc tnmacytngc nntngcnga

29

<210> 11

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Construct

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<221> misc_feature

<222> 6, 9, 12, 15, 21

<223> n = Inosine

<220>

<221> misc_feature

<222> 24

<223> n = A, C, G, or T

<400> 11

ggatanacna cngcnadrwa nckntc

26

<210> 12

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 12

Asp Tyr Lys Asp Asp Asp

1

5

<210> 13

<211> 39

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetic Construct

<400> 13

Met Asp Ser Lys Gly Ser Ser Gln Lys Gly Ser Arg Leu Leu Leu Leu

1

5

10

15

Leu Val Val Ser Asn Leu Leu Leu Cys Gln Gly Val Val Ser Asp Tyr

20

25

30

Lys Asp Asp Asp Asp Val Glu

35

<210> 14

<211> 5

<212> PRT

<213> Homo Sapiens

<400> 14
Phe Glu Glu Phe Pro
1 5

<210> 15
<211> 5
<212> PRT
<213> Homo Sapiens

<400> 15
Phe Glu Glu Ile Pro
1 5

<210> 16
<211> 5
<212> PRT
<213> Homo Sapiens

<400> 16
Tyr Glu Pro Phe Trp
1 5

<210> 17
<211> 9
<212> PRT
<213> Homo sapiens

<400> 17
Thr Phe Arg Gly Ala Pro Pro Asn Ser
1 5

<210> 18
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 18
Val Glu His His His His His His
1 5

<210> 19
<211> 23
<212> PRT
<213> Homo Sapiens

<400> 19
Leu Pro Ile Lys Thr Phe Arg Gly Ala Pro Pro Asn Ser Phe Glu Glu
1 5 10 15

Phe Pro Phe Ser Ala Leu Glu
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<210> 20
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<213> Artificial Sequence

<220>
<223> Synthetic Construct

<400> 20
Leu Pro Ile Lys Pro Phe Arg Gly Ala Pro Pro Asn Ser Phe Glu Glu
1 5 10 15
Phe Pro Phe Ser Ala Leu Glu
20

<210> 21
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<220>
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<222> 1
<223> Xaa = beta-homoarginine

<400> 21
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1 5 10 15
Ser Ala Leu Glu
20

<210> 22
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<220>
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<220>
<221> VARIANT
<222> 1
<223> Xaa = D-phenylalanine

<400> 22
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1 5 10 15
Pro Phe Ser Ala Leu Glu
20

<210> 23
 <211> 4
 <212> PRT
 <213> Homo Sapiens

<400> 23
 Leu Pro Ile Lys
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<210> 24
 <211> 404
 <212> PRT
 <213> Mus Musculus

<400> 24
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 Lys Ile Leu Ile Leu Val Ala Ala Gly Leu Leu Phe Leu Pro Val Thr
 20 25 30
 Val Cys Gln Ser Gly Ile Asn Val Ser Asp Asn Ser Ala Lys Pro Thr
 35 40 45
 Leu Thr Ile Lys Ser Phe Asn Gly Gly Pro Gln Asn Thr Phe Glu Glu
 50 55 60
 Phe Pro Leu Ser Asp Ile Glu Gly Trp Thr Gly Ala Thr Thr Thr Ile
 65 70 75 80
 Lys Ala Glu Cys Pro Glu Asp Ser Ile Ser Thr Leu His Val Asn Asn
 85 90 95
 Ala Thr Ile Gly Tyr Leu Arg Ser Ser Leu Ser Thr Gln Val Ile Pro
 100 105 110
 Ala Ile Tyr Ile Leu Leu Phe Val Val Gly Val Pro Ser Asn Ile Val
 115 120 125
 Thr Leu Trp Lys Leu Ser Leu Arg Thr Lys Ser Ile Ser Leu Val Ile
 130 135 140
 Phe His Thr Asn Leu Ala Ile Ala Asp Leu Leu Phe Cys Val Thr Leu
 145 150 155 160
 Pro Phe Lys Ile Ala Tyr His Leu Asn Gly Asn Asn Trp Val Phe Gly
 165 170 175
 Glu Val Met Cys Arg Ile Thr Thr Val Val Phe Tyr Gly Asn Met Tyr
 180 185 190
 Cys Ala Ile Leu Ile Leu Thr Cys Met Gly Ile Asn Arg Tyr Leu Ala
 195 200 205
 Thr Ala His Pro Phe Thr Tyr Gln Lys Leu Pro Lys Arg Ser Phe Ser
 210 215 220
 Leu Leu Met Cys Gly Ile Val Trp Val Met Val Phe Leu Tyr Met Leu
 225 230 235 240
 Pro Phe Val Ile Leu Lys Gln Glu Tyr His Leu Val His Ser Glu Ile
 245 250 255
 Thr Thr Cys His Asp Val Val Asp Ala Cys Glu Ser Pro Ser Ser Phe
 260 265 270
 Arg Phe Tyr Tyr Phe Val Ser Leu Ala Phe Phe Gly Phe Leu Ile Pro
 275 280 285
 Phe Val Ile Ile Ile Phe Cys Tyr Thr Thr Leu Ile His Lys Leu Lys
 290 295 300
 Ser Lys Asp Arg Ile Trp Leu Gly Tyr Ile Lys Ala Val Leu Leu Ile

305					310					315				320	
Leu	Val	Ile	Phe	Thr	Ile	Cys	Phe	Ala	Pro	Thr	Asn	Ile	Ile	Leu	Val
				325					330					335	
Ile	His	His	Ala	Asn	Tyr	Tyr	Tyr	His	Asn	Thr	Asp	Ser	Leu	Tyr	Phe
			340					345					350		
Met	Tyr	Leu	Ile	Ala	Leu	Cys	Leu	Gly	Ser	Leu	Asn	Ser	Cys	Leu	Asp
		355					360				365				
Pro	Phe	Leu	Tyr	Phe	Val	Met	Ser	Lys	Val	Val	Asp	Gln	Leu	Asn	Pro
	370					375					380				
Ser	Ala	Met	Ala	Arg	Pro	Leu	Arg	Pro	Arg	Arg	Asp	Ile	Trp	Glu	Asp
385					390					395					400
Ile	His	Ala	Trp												

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<400> 25															
Cys	Ser	Met	Ile	Leu	Gln	Ile	Ser	Arg	Leu	Arg	Asp	Gly	Thr	Gln	Val
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Ile	Lys	Met	Lys	Ala	Leu	Ile	Phe	Ala	Ala	Ala	Gly	Leu	Leu	Leu	Leu
			20					25					30		
Leu	Pro	Thr	Phe	Cys	Gln	Ser	Gly	Met	Glu	Asn	Asp	Thr	Asn	Asn	Leu
		35					40				45				
Ala	Lys	Pro	Thr	Leu	Pro	Ile	Lys	Thr	Phe	Arg	Gly	Ala	Pro	Pro	Asn
	50					55					60				
Ser	Phe	Glu	Glu	Phe	Pro	Phe	Ser	Ala	Leu	Glu	Gly	Trp	Thr	Gly	Ala
65					70					75					80
Thr	Ile	Thr	Val	Lys	Ile	Lys	Cys	Pro	Glu	Glu	Ser	Ala	Ser	His	Leu
				85					90					95	
His	Val	Lys	Asn	Ala	Thr	Met	Gly	Tyr	Leu	Thr	Ser	Ser	Leu	Ser	Thr
			100					105					110		
Lys	Leu	Ile	Pro	Ala	Ile	Tyr	Leu	Leu	Val	Phe	Val	Val	Gly	Val	Pro
		115					120					125			
Ala	Asn	Ala	Val	Thr	Leu	Trp	Met	Leu	Phe	Phe	Arg	Thr	Arg	Ser	Ile
	130					135					140				
Cys	Thr	Thr	Val	Phe	Tyr	Thr	Asn	Leu	Ala	Ile	Ala	Asp	Phe	Leu	Phe
145					150					155					160
Cys	Val	Thr	Leu	Pro	Phe	Lys	Ile	Ala	Tyr	His	Leu	Asn	Gly	Asn	Asn
			165						170					175	
Trp	Val	Phe	Gly	Glu	Val	Leu	Cys	Arg	Ala	Thr	Thr	Val	Ile	Phe	Tyr
		180						185					190		
Gly	Asn	Met	Tyr	Cys	Ser	Ile	Leu	Leu	Ala	Cys	Ile	Ser	Ile	Asn	
	195						200				205				
Arg	Tyr	Leu	Ala	Ile	Val	His	Pro	Phe	Thr	Tyr	Arg	Gly	Leu	Pro	Lys
	210					215					220				
His	Thr	Tyr	Ala	Leu	Val	Thr	Cys	Gly	Leu	Val	Trp	Ala	Thr	Val	Phe
225					230					235					240
Leu	Tyr	Met	Leu	Pro	Phe	Phe	Ile	Leu	Lys	Gln	Glu	Tyr	Tyr	Leu	Val
			245						250					255	
Gln	Pro	Asp	Ile	Thr	Thr	Cys	His	Asp	Val	His	Asn	Thr	Cys	Glu	Ser
			260					265					270		
Ser	Ser	Pro	Phe	Gln	Leu	Tyr	Tyr	Phe	Ile	Ser	Leu	Ala	Phe	Phe	Gly
		275					280					285			
Phe	Leu	Ile	Pro	Phe	Val	Leu	Ile	Ile	Tyr	Cys	Tyr	Ala	Ala	Ile	Ile

290		295		300
Arg Thr Leu Asn Ala Tyr Asp His Arg Trp Leu Trp Tyr Val Lys Ala				
305		310		320
Ser Leu Leu Ile Leu Val Ile Phe Thr Ile Cys Phe Ala Pro Ser Asn				
	325		330	335
Ile Ile Leu Ile Ile His His Ala Asn Tyr Tyr Tyr Asn Asn Thr Asp				
	340		345	350
Gly Leu Tyr Phe Ile Tyr Leu Ile Ala Leu Cys Leu Gly Ser Leu Asn				
	355		360	365
Ser Cys Leu Asp Pro Phe Leu Tyr Phe Leu Met Ser Lys Thr Arg Asn				
	370		375	380
His Ser Thr Ala Tyr Leu Thr Lys Asn Asp Leu Arg Glu Gln Gly Gln				
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Pro Ser Gln Arg Thr				400
	405			

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 Leu Thr Pro Lys
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 Glu Phe Pro Phe Ser Ala Leu Glu Gly Trp Thr Gly Ala
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<220>
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 Glu Pro Phe Trp Glu Asp Glu Glu Lys Asn Glu Ser Gly
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 Val Thr Gly Lys Gly Val Thr Val Glu Thr Val Phe Ser Val Asp
 20 25 30